



FY 2001 Budget Up 20 Percent

—By Dane Konop

NOAA has requested \$2.9 billion in total budget authority for fiscal year 2001, a 20-percent increase over the current budget.

Administrator D. James Baker, speaking at a press briefing in the Herbert C. Hoover building in Washington, D.C., Feb. 7, said, "We believe we have a good, balanced budget that supports both programs and infrastructure, from weather to fish to coastal activities and our infrastructure from ships to satellites to computers."

Before taking reporters' questions, Baker said, "We think we have a strong agency and we think *continued on page 8*



NASA

April 1 is the fortieth anniversary of the launch of TIROS-1, the world's first weather satellite. For a look back at this historic satellite series, see pages 4-5.



Al Sandrik/NOAA

A man and woman survived the nearly total destruction of their home (far right) near Omega, Ga., by an F2 tornado that struck at 1:30 a.m. Feb. 14.

Tornadoes Create Real-Life Nightmare

—By John Leslie

When a string of violent thunderstorms hurtled into southwest Georgia on Feb. 14, it left meteorologists in the Tallahassee, Fla., forecast office facing one of the worst tornado outbreaks in its history.

"With a storm system that strong, taking shape during the wee hours when most are asleep, we knew the community was in for a tough ordeal," said Ron Block, the senior forecaster on duty at the time of the storm.

Daylight revealed the tornadoes had claimed 18 lives in the sleeping communities of Mitchell, Colquitt and Grady counties in Georgia, locations within the county warning area of the Tallahassee forecast office. In the wake of the storm's aftermath, owning a NOAA Weather Radio, especially for

nighttime tornado events, grabbed media attention.

NBC News showed one survivor, standing in the rubble of his house, who credited NOAA Weather Radio with saving his life.

An editorial in the *Atlanta Journal Constitution* said, "The National Weather Service was on top of its mission to monitor developing storms but," the article continued, "its warnings reached too few Georgians in the storm's path because so many had gone to bed." The article later highlighted the value of NOAA Weather Radio.

Three days before this deadly tornado eruption, forecasters in Tallahassee discussed the potential for severe weather. By Sunday evening, as the line of thunderstorms rolled closer to Georgia, *continued on page 3*

Alan E. Strong: Oceanographer Extraordinaire

This is the third in a series of profiles of men and women who have been employees of NOAA since NOAA was established in 1970.

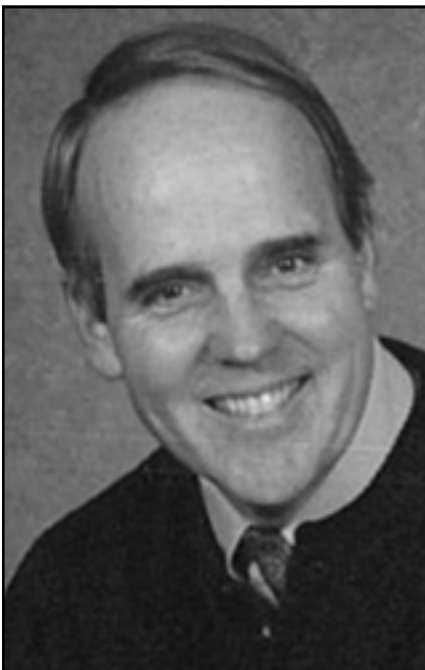
—By Patricia Viets

Everyone who has watched Dan Rather, Tom Brokaw or Peter Jennings describe El Niño's warm ocean currents is already familiar with the work done by Alan E. Strong.

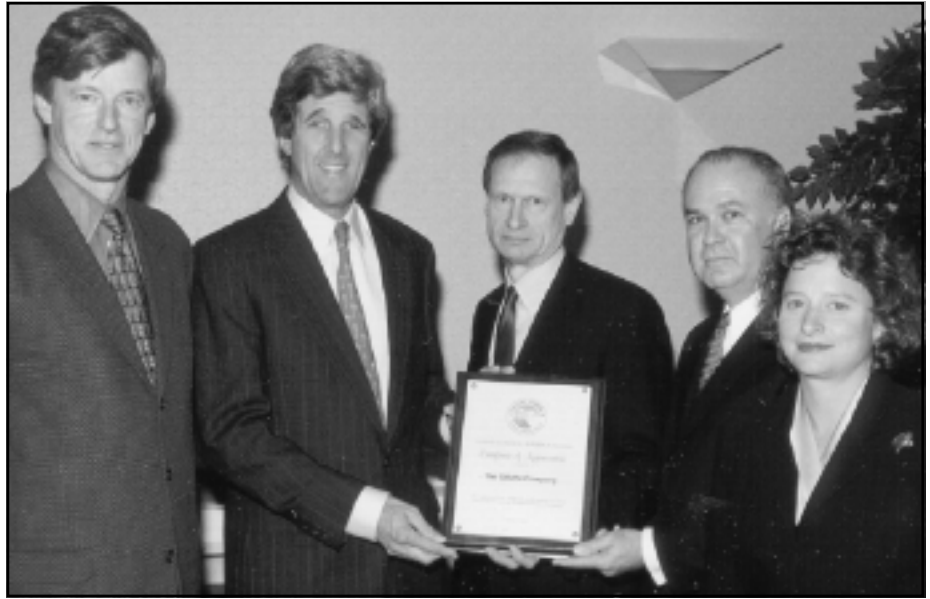
During the last El Niño season, charts that he developed from satellite data showing departures from normal sea surface temperatures were used extensively as backdrops on the network news.

Strong, an oceanographer who has been with NOAA since its inception, now works for the NESDIS Office of Research and Applications in Camp Springs, Md.

His interest in sea surface temperatures includes research into the effects that high temperatures
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Oceanographer Alan E. Strong.



U.S. Army Corps of Engineers

Officials launched the Coastal America-New England Corporate Wetlands Restoration Partnership Jan. 21 in Boston, Mass. Pictured left to right: Robert Durand, Massachusetts Executive Office of Environmental Affairs, U.S. Senator John Kerry, A. Wallace Hayes, Gillette Corporation Vice President for Environmental Affairs, Joseph Westphal, Chair of Coastal America and Assistant Secretary of the Army for Civil Works, and Sally Yozell, Deputy Assistant Secretary of Commerce.

Spotlight on Nancy McCary

—By Pamela J. Fromhertz and Scott Gudes

If anyone exemplifies the saying "attitudes are the real disability," it is NOAA's own Nancy McCary.

Nancy has been with NOAA's National Ocean Service for 26 years. Only four years after joining, at the age of 22—after already being out of the house and having independence—she lost her sight to diabetes. When managers suggested that she take disability and leave the agency, Nancy said, "Forget it. I still have a lot to contribute." And has she ever!

Nancy McCary serves as a role model for everyone who comes in contact with her. She exemplifies courage, dedication and professional excellence. Yes, she is blind and has a number of physical disabilities. But, Nancy ventures into the world everyday with a bright smile, a cheery voice and an inspirational, positive attitude. She seamlessly handles the responsibilities of a difficult and demanding job. Don't tell Nancy that she is

disabled. She would not agree. And, anyone who has seen her at work or at play, including horseback riding, would not agree either.

Nancy McCary has been through more than many can imagine, having lost her sight, enduring amputations and now relying on a wheelchair. While Nancy was unwilling to take disability, she did tell NOAA managers that she needed some extra tools and training, no different than any sighted person going into a new position.

She eventually spoke to some managers who were "willing" to have Nancy work with them. This lucky group was the Field Operation Branch of the National Geodetic Survey. Within the first few months of Nancy's joining the branch, Harold Beard, the now retired branch chief, told Nancy that someday she would run the entire NGS division.

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The NOAA Ship John N. Cobb.

Larry Mordock/NOAA

Cobb Celebrates Half Century of Service

—By Larry Mordock

A celebration at the Pacific Marine Center in Seattle, Wash., Feb. 18 honored the golden anniversary of the commissioning of the oldest vessel in the NOAA Fleet—the NOAA Ship *John N. Cobb*.

The celebration, exactly 50 years to the day after the commissioning, was attended by many who have worked with and served on the ship over its one-half century of service, including the ship's designer, Gordon Snyder, and the second master, Jose Franco.

Rear Adm. Nicholas A. Prah, director of the Marine Operations Center, presented the ship with its commissioning certificate and a painting of the ship mounted side-by-side in a gold leaf frame. An inscription in the frame says, "Golden Anniversary Celebration. Dedicated to all who have served. February 2000."

John N. Cobb is NOAA's only wooden research ship, built along the lines of mid-1900s Pacific trawler designs.

Its namesake was the first dean of the University of Washington's College of Fisheries, established in 1919 as the only college of fisheries in America.

Over the past 50 years, the ship has plied the waters from Mexico to the Chukchi Sea north of the Bering Strait.

Today, the 93-foot *Cobb* conducts fishery and living marine resource research in southeast Alaska and in U.S. Pacific coastal waters for the National Marine Fisheries Service's Auke Bay Laboratory and the National Marine Mammal Laboratory.

Happy birthday, *John N. Cobb*, and many happy returns! ☺



Larry Mordock/NOAA

Georgia Tornadoes

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forecasters were already issuing warnings. Nearly six-hours advance notice came from the Storm Prediction Center. The Tallahassee forecast office issued 50 warnings with lead times from 33 to 59 minutes.

"For those kinds of long lead times," said Gary Grice, deputy director of the National Weather Service southern region, "we should be able to prevent most loss of life.

"When severe weather strikes in the middle of the night, an alarm-equipped NOAA Weather Radio is a must-have," he added.

In advance of the storms, the Tallahassee office was a blur of motion. It bumped up its staffing and activated its SKYWARN network.

A local volunteer amateur radio operator showed up to coordinate calls from storm spotters, who were phoning in ground reports.

"We worked up to 12 hours straight, without as much as five minutes for a coffee break," Block said. "As many as eight calls a minute were coming in from everyone, including emergency managers and homeowners," he added.

Block singled out the teamwork of the staff, which he said responded with "superb rapid-fire decision-making under amazing stress."

But for Block, the tornado outbreak was a grim reminder that "even with the best warnings and the longest lead times, people can still die if they are unable to receive them." ☹

Cobb commanding officer Lt. Cdr. Scott Hill (right) presents a golden construction spike from the ship to naval architect Gordon Snyder, who designed the vessel, while chief engineer Samuel Hardy III (center) and others look on.

Focus On...

TIROS—The First Weather Satellite

—By Patricia Viets

In April, NOAA and the satellite community will celebrate the fortieth anniversary of the launch of TIROS-1, the world's first weather satellite. With images of clouds from satellites operated by NOAA's National Environmental Satellite, Data, and Information Service in Suitland, Md., shown daily on television weather forecasts, it may be difficult to remember the days when there were no weather satellites.



NOAA/NESDIS

TIROS-1 provided this first television picture from space.



NASA

The launch of TIROS-1 from Cape Canaveral, Fla., on April 1, 1960, marked the birth of the meteorological satellite system.

Launched from Cape Canaveral, Fla., April 1, 1960, and named the Television Infrared Observation Satellite, TIROS immediately demonstrated the advantage of mapping the Earth's cloud cover from satellite altitudes.

TIROS showed clouds banded and clustered in unexpected ways. Sightings from the surface had not prepared meteorologists for the interpretation of the cloud patterns that the view from an orbiting satellite would show.

From April 1, 1960, to July 2, 1965, ten TIROS satellites were launched.

On Jan. 23, 1970, the first improved TIROS satellite was launched, named ITOS 1 for improved TIROS operational satellite. Designated NOAA-1 through 5, five ITOS satellites were launched between Dec. 11, 1970, and July 29, 1976.

NOAA-1 was the first satellite to be launched after the establishment of NOAA in October 1970 and the first to bear the NOAA name.

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TIROS Next

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From Oct. 13, 1978, to July 23, 1981, the next generation of TIROS-N satellites, designated NOAA-6 and NOAA-7, was launched. The Advanced Very High Resolution Radiometer and TIROS Operational Vertical Sounder were first flown on the TIROS-N series.

On March 28, 1983, the first of the advanced TIROS-N satellites, NOAA-8, also called ATN, was launched. ATN satellites are physically larger and have more power than their predecessors to accommodate more equipment. NOAA continues to operate this series of satellites today with improved instruments.

The current configuration is NOAA-14, launched Dec. 12, 1994, and NOAA-15, launched May 13, 1998. NOAA-15 is the first in a series of five satellites with improved imaging and sounding capabilities that will operate over the next decade. NOAA-L is currently planned for launch in August 2000.



Technicians ready TIROS-1 for launch.

NASA

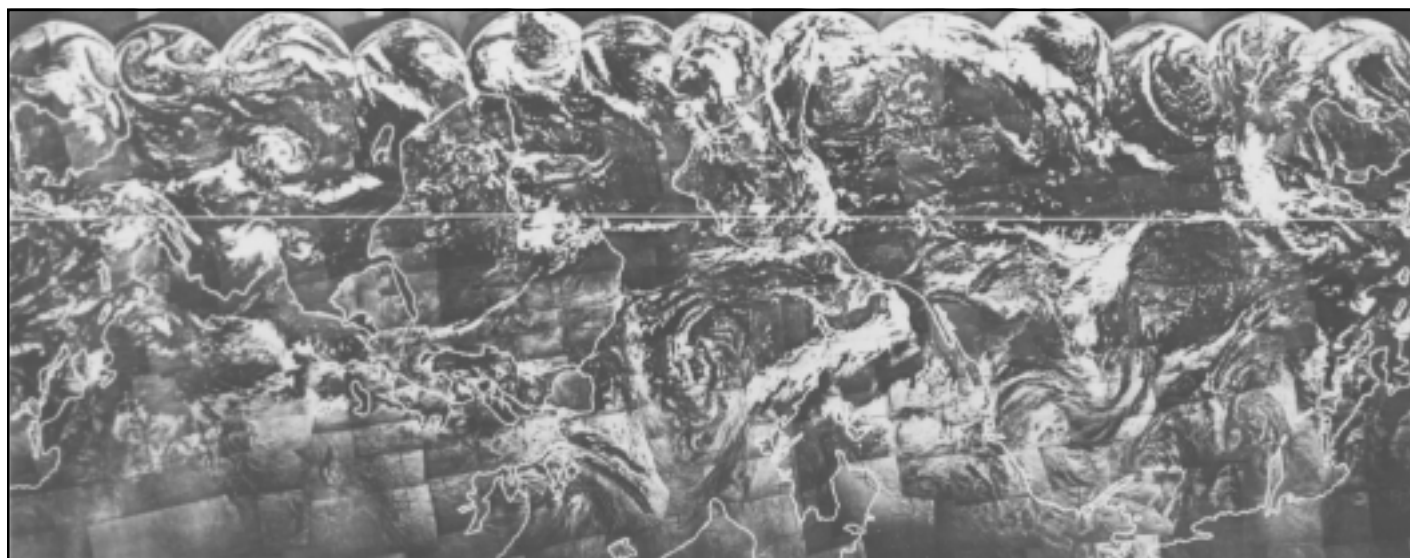
On May 5, 1994, President Clinton made the landmark decision to merge the nation's military and civil operational meteorological satellite systems into a single, national system capable of satisfying both civil and national security requirements for space-based remotely sensed environmental data.



NASA

Technicians inspect ESSA-3. Nine polar-orbiting ESSA satellites were launched by NOAA's predecessor, the Environmental Science Services Administration, from 1966 to 1969.

The joint National Polar-orbiting Operational Environmental Satellite System is expected to provide more than \$1.8 billion savings in acquisition and operational costs through the system life cycle of the program compared to the cost of continuing the planned separate satellite systems within the Departments of Defense and Commerce. ☺



NOAA/NESDIS

TIROS-9 provided this first complete view of the world's weather on Feb. 13, 1965.



Dennis Hoar/NOAA

Nancy McCary at work for the National Geodetic Survey in Silver Spring, Md.

McCary

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Nancy has continued to grow in her job with NGS in Silver Spring, Md. She has gone from being a timekeeper for a section to the timekeeper liaison/advisor/T&A transmitter and contact person for all of NGS, as well as keeping personnel and physical property inventory. She assists with field and office human resource issues and now coordinates the NGS Field Party Operations financial tracking system.

Her newest responsibility is assisting the NGS Web master on Web accessibility. She uses a computer system as sighted employees use, except hers has a software package that reads everything on the screen, word by word. Nancy recently was able to get software that enables her to use email; so the joke at NOS is if you don't want it read aloud, don't put it in an email!

Nancy lives with her parents, and before enduring toe amputations, she used to have a guide dog,

Paddy. Her co-workers now assist her in getting from place to place. Nancy knows what it is like having her independence taken from her and will do anything to have any of it back.

One of the most significant ways for her is horseback riding. She loves the feeling of trotting or cantering on a horse. Nancy rides twice a week. She recently took second place at a competition with five sighted riders! Nancy intends to continue to enter horseback riding competitions. She says that she wants to show other blind riders what they can accomplish.

The teamwork of Nancy and her group at NGS was recognized by the NOAA Diversity Council when they were awarded one of the new Spectrum Awards at the 1999 awards ceremony last December.

Nancy summarizes it best. "I believe anyone can achieve happiness and fulfillment in their lives. Attitude will help you or slow you down. My belief is that I can do anything I set my mind to and I will be a happier person when I help others." ☺

Strong

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can have on coral reefs. He is part of an international team of coral reef experts that makes recommendations to the international community to protect the reefs. In 1998, the team reported that high sea surface temperatures affected almost all species of corals, leading to unprecedented global coral bleaching and mortality.

"The bleaching and mortality rate may be even worse in the years ahead," Strong says. "This serves as a wake-up call for more research and monitoring to help protect this valuable resource."

To identify areas of potential coral bleaching, Strong developed HotSpot charts based on satellite measurements of warmer than normal summertime sea surface temperatures. He then instituted a system in which scientists around the world could confirm bleaching events via the Internet. Strong collects these reports of coral bleaching from an informal network of coral reef researchers and observers and posts these reports on the Internet.

Strong's research has also taken him to distant places such as Australia, and closer to home to the U.S. Naval Academy in Annapolis. Starting in 1986, he held the chair of remote sensing in the oceanography department there. In 1991 he became project manager, and soon moved from adjunct assistant to associate professor with NOAA's Cooperative Project in Oceanic Remote Sensing at the Academy. The project involved midshipmen in his research for NOAA/NESDIS as they conducted independent research for their studies in oceanography. He taught courses such as remote sensing of ocean currents, global climate change and principles of meteorology and was an

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Strong

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instructor in the Maury Project.

Strong was born in Boston but grew up in Michigan, where he discovered the intrigue, fascination and beauty of the Great Lakes. The lakes piqued his interest in the ocean, and although he was originally interested in meteorology, he turned to oceanography. "It was more fun than meteorology," he jokes.

Strong studied mathematics at Kalamazoo College, where he earned a bachelor's degree. His interest in the ocean came to fruition at the University of Michigan, where he earned a master's degree in oceanography, and later became the second person in the history of the university to earn a Ph.D. in oceanography.

Strong and his wife Nancy live on Kent Island, Md. They have five children, who are now grown. Son Christopher is a forecaster at the National Weather Service office in Sterling, Va. Strong's brother Tom also works for NOAA as a contractor with the Field Research Division of NOAA's Air Resources Laboratory in Idaho Falls, Idaho.

This past year, Strong's extraordinary professional contributions were formally recognized, when he was awarded not one but two medals for his work in coral reefs—the Department of Commerce's Silver Medal and NOAA's Bronze Medal.

Strong says he has found his career at NOAA and his service at the Naval Academy to be rewarding and challenging.

"What a joy it was to have the opportunity to work with some fine young men and women as they trained to become officers. So much of what we are doing now to study coral reefs and climate has come from research projects they began with me." ☺



Michael Quigley/NOAA

The student team from the Berrien County Math and Science Center, Berrien Springs, Mich., won the Midwest regional competition of the National Ocean Sciences Bowl Feb. 26.

Pictured left to right, back row: Dennis Lundgren (coach), Gabriel Black and Joshua Barber. Front row: Charles Penninger, Daniel Snow and Amy Byerley.

NOAA Great Lakes Lab, Sea Grant Host Midwest Regional Ocean Sciences Bowl

—By Michael Quigley

You don't have to live in a coastal ocean state to get fired up about the wet side of science.

That's what ten Michigan high school teams showed at the third annual Midwest regional competition of the National Ocean Sciences Bowl held Feb. 26 at the University of Michigan in Ann Arbor.

The competition was co-hosted by NOAA's Great Lakes Environmental Research Laboratory, Michigan Sea Grant, the University of Michigan and Meridian ERIM International.

The event is one of 20 regional competitions being held this year among teams of high school students who compete in short answer "quiz bowl" matches testing knowledge in Great Lakes and ocean science, technology and social science.

According to laboratory director Steve Brandt, the event is intended to raise student interest in Great Lakes and ocean science, while encouraging teachers to use lake and ocean processes in teaching

fundamentals of biology, physics, chemistry, geology and math. "Moreover," Brandt noted, "the kids that competed are next-generation scientists. We'd like to get them thinking about careers in studying our lakes and oceans. There's much work to be carried on. We'd like to see our ranks filled by the best and brightest."

Brandt served as a science judge in a series of morning round-robin matches. "It's amazing how hard these students have worked. The questions were tough, but the teams demonstrated an extraordinary level of knowledge in responding to them," he said.

This year's winning team, the Berrien County Math and Science Center from southwest Michigan, had lost in an early double elimination round to Ann Arbor's Huron High, but came back to best Huron in two successive matches to claim victory. Team members were Joshua Barber, Gabriel Black, Charles Penninger, Daniel Snow, Amy Byerley and coach Dennis Lundgren. ☺

2001 Budget

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we're doing a good job with this budget.

"We're looking forward to talking to Congress about the budget and we'll be starting our hearings in a couple of weeks," Baker said.

Emphasizing the increases for ocean programs in response to a reporter's question, Baker said, "Ocean observations need to be brought up to the level of atmospheric observations. We feel that NOAA could be doing more in ocean programs and that we made a very good start with the oceans conference and with the 2000 budget. In almost every area there's a start where we had nothing before. I think it's a good start," he said.

Baker said he was pleased with the budget request, which is an increase of about \$500 million over fiscal year 2000 and includes, he said, a number of new initiatives.

Natural Disaster Reduction

The Administration proposes \$110 million in increases in programs in the Natural Disaster Reduction Initiative, including increases for sustaining the National Weather Service modernization, research and new funding for satellites and data efforts.

This will result in better weather science, better research, better forecasts, better ways of getting out information and better building standards that will help reduce the impact of natural disasters, Baker said.

Lands Legacy

The President's budget request includes \$1.4 billion for the Lands Legacy Initiative to protect land and coastal resources, spread across all the agencies of the federal government. "NOAA's budget is

about one-third of that, or \$468 million," Baker said. "This just emphasizes the Administration's commitment to protecting natural resources," he said. Under the initiative, nearly \$95 million are included for coastal zone management grants, technical assistance and program administration.

"We're going to recommend that states use \$25 million of that for pollution runoff and about \$30 million for the impact of development and sprawl," Baker said.

The Administration-proposed Coastal Impact Assistance Fund will provide \$100 million to coastal states with existing offshore oil and gas production to increase protection and sustainable management of coastal resources such as habitat protection, community revitalization, improved coastal access and public education on coastal issues.

Climate Observations

The budget proposal includes \$28 million for a new Climate Observation and Services Initiative, which will allow NOAA to "step up to its responsibilities to provide better climate data, better climate information and better climate forecasts," Baker said.

Minority-Serving Institutions

As part of a Commerce Department-wide effort, NOAA requests \$17 million to continue educational training relationships through a joint partnership with a consortium of minority-serving institutions that will result in the education of new marine, atmospheric and environmental scientists and provide the department with a broader and more diverse pool of potential employees.

South Florida, Clean Water

The budget requests a \$1.6-million increase to help halt the

degradation of the south Florida ecosystem and an increase of \$6.9 million over the fiscal year 2000 enacted budget to support the Administration's Clean Water Initiative to help protect coastal communities from toxic substances and reduce the flow of pollution into coastal waters.

America's Ocean Future

Following up on the National Ocean Conference in Monterey, Calif., in July 1998 to develop a coordinated, long-term federal ocean policy, the budget includes over \$51 million to promote safe and efficient navigation, promote the development of environmentally friendly and commercially viable aquaculture, increase fisheries stock assessments and observer programs, map and explore U.S. coastal waters, continue protection of threatened and endangered marine species and activate and upgrade a NOAA vessel to support fishery research.

Ship Funding

"We will be putting additional funds into ship replacement, including \$8 million for the *Adventurous* and \$8.3 million to finish development of the current acoustically quiet fisheries stock assessment vessel," Baker said. ☺

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